IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Andrew Bell et al. Examiner: R. Rabago

Serial No. Group Art Unit: 1711

Filed: August 2, 2001

For: IN MOLD ADDITION POLYMERIZATION OF NORBORNENE-TYPE MONOMERS USING GROUP 10 METAL COMPLEXES

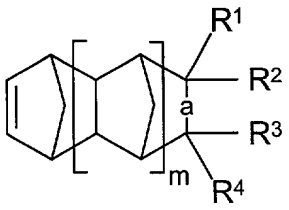
Box: New Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

IN THE CLAIMS

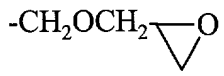
Please substitute the following claims for the pending claims of the same number.

56. (Amended) The reactant composition claim 33, wherein said polycycloolefin comprises a monomer selected from a compound of the formula:

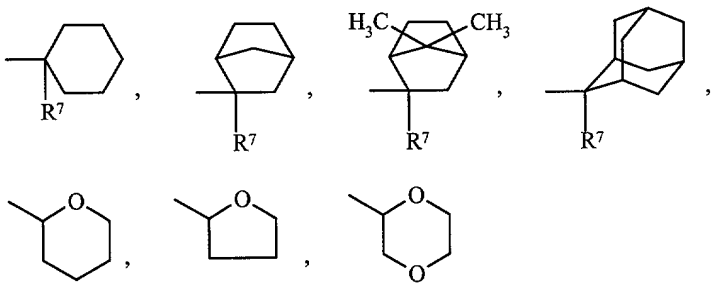


wherein "a" represents a single or double bond; m is an integer from 0 to 5; when "a" is a double bond one of R^1, R^2 and one of R^3, R^4 is not present; and R^1 to R^4 independently represent hydrogen, substituted and unsubstituted linear and branched C_1-C_{10} alkyl, linear and branched C_1-C_{10} haloalkyl, substituted and unsubstituted linear and branched C_2-C_{10} alkenyl, linear and branched C_2-C_{10} haloalkenyl, substituted and unsubstituted linear and branched C_2-C_{10} alkynyl, substituted and unsubstituted C_4-C_{12} cycloalkyl, substituted and unsubstituted C_4-C_{12} halocycloalkyl, substituted and unsubstituted C_4-C_{12} cycloalkenyl, substituted and unsubstituted C_4-C_{12} halocycloalkenyl, substituted and unsubstituted C_6-C_{12} aryl, substituted and unsubstituted

C_6-C_{12} haloaryl and substituted and unsubstituted C_7-C_{24} aralkyl, R^1 and R^2 or R^3 and R^4 can be taken together to represent a C_1-C_{10} alkylidenyl group, $-(CH_2)_nC(O)NH_2$, $-(CH_2)_nC(O)Cl$, $-(CH_2)_nC(O)OR^5$, $-(CH_2)_n-OR^5$, $-(CH_2)_n-OC(O)R^5$, $-(CH_2)_n-C(O)R^5$, $-(CH_2)_n-OC(O)OR^5$, $-(CH_2)_nSiR^5$, $-(CH_2)_nSi(OR^5)_3$, $-(CH_2)_nC(O)OR^6$, and the group:



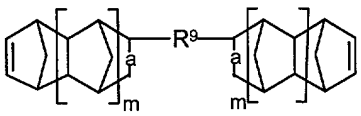
wherein n independently represents an integer from 0 to 10 and R^5 independently represents hydrogen, linear and branched C_1-C_{10} alkyl, linear and branched, C_2-C_{10} alkenyl, linear and branched C_2-C_{10} alkynyl, C_5-C_{12} cycloalkyl, C_6-C_{14} aryl, and C_7-C_{24} aralkyl; R^6 represents a radical selected from $-C(CH_3)_3$, $-Si(CH_3)_3$, $-CH(R^7)OCH_2CH_3$, $-CH(R^7)OC(CH_3)_3$, dicyclopropylmethyl, dimethylcyclopropylmethyl, or the following cyclic groups:



wherein R^7 represents hydrogen or a linear or branched (C_1-C_5) alkyl group; R^1 and R^4 together with the two ring carbon atoms to which they are attached can represent a substituted or unsubstituted cycloaliphatic group containing 4 to 30 ring carbon atoms, a substituted or unsubstituted aryl group containing 6 to 18 ring carbon atoms and combinations thereof; R^1 and R^4 can be taken together to form the divalent bridging group, -C(O)-Q-(O)C-, which when taken together with the two ring carbon atoms to which they are attached form a pentacyclic ring, wherein Q represents an oxygen atom or the group $N(R^8)$, wherein R^8 is selected from hydrogen, halogen, linear and branched C_1-C_{10} alkyl, and C_6-C_{18} aryl.

59. (Amended) The reactant composition of claim 33, wherein said composition further comprises a rate moderator selected from the group consisting of water, tetrahydrofuran, 2-methyltetrahydrofuran, diethyl ether, methyl-*tert*-butyl ether, dimethoxyethane, diglyme, trimethylphosphine, triethylphosphine, tributylphosphine, tri(ortho-tolyl)phosphine, tri-*tert*-butylphosphine, tricyclopentylphosphine, tricyclohexylphosphine, triisopropylphosphine, trioctylphosphine, triphenylphosphine, tri(pentafluorophenyl)phosphine, methyldiphenylphosphine, dimethylphenylphosphine, trimethylphosphite, triethylphosphite, triisopropylphosphite, ethyl diphenylphosphinite, tributylphosphite, triphenylphosphite, diethylphenylphosphonite, and tribenzylphosphine, 2-cyclohexenone, triphenylphosphine oxide, and mixtures thereof.

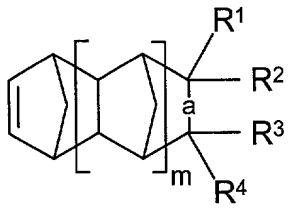
74. (Amended) The multifunctional polycycloolefin monomer set forth in claims 55, wherein said monomer is selected from a composition of the formula:



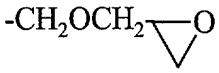
wherein "a" independently represents a single or double bond, m independently is an integer from 0 to 5, R^9 is a divalent radical selected from divalent hydrocarbyl radicals and divalent ether radicals.

The following is a **marked** version of the prior pending claims with all changes shown in conventional comparison:

56. (Amended) The reactant composition claim [32,] 33, [43, 44, 48, or 55] wherein said polycycloolefin comprises a monomer selected from a compound of the formula:



wherein "a" represents a single or double bond; m is an integer from 0 to 5; when "a" is a double bond one of R^1, R^2 and one of R^3, R^4 is not present; and R^1 to R^4 independently represent hydrogen, substituted and unsubstituted linear and branched C_1-C_{10} alkyl, linear and branched C_1-C_{10} haloalkyl, substituted and unsubstituted linear and branched C_2-C_{10} alkenyl, linear and branched C_2-C_{10} haloalkenyl, substituted and unsubstituted linear and branched C_2-C_{10} alkynyl, substituted and unsubstituted C_4-C_{12} cycloalkyl, substituted and unsubstituted C_4-C_{12} halocycloalkyl, substituted and unsubstituted C_4-C_{12} cycloalkenyl, substituted and unsubstituted C_4-C_{12} halocycloalkenyl, substituted and unsubstituted C_6-C_{12} aryl, substituted and unsubstituted C_6-C_{12} haloaryl and substituted and unsubstituted C_7-C_{24} aralkyl, R^1 and R^2 or R^3 and R^4 can be taken together to represent a C_1-C_{10} alkylidenyl group, $-(CH_2)_nC(O)NH_2$, $-(CH_2)_nC(O)Cl$, $-(CH_2)_nC(O)OR^5$, $-(CH_2)_n-OR^5$, $-(CH_2)_n-OC(O)R^5$, $-(CH_2)_n-C(O)R^5$, $-(CH_2)_n-OC(O)OR^5$, $-(CH_2)_nSiR^5$, $-(CH_2)_nSi(OR^5)_3$, $-(CH_2)_nC(O)OR^6$, and the group:



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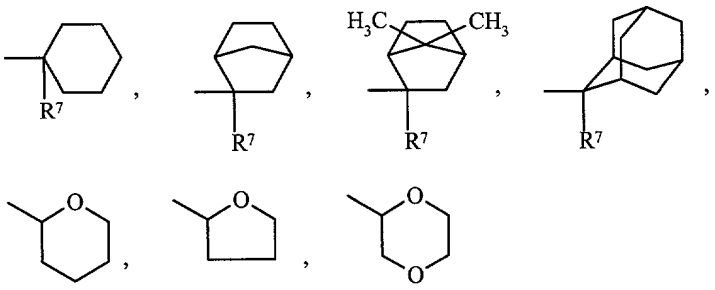
radical selected from $-C(CH_3)_3$, $-Si(CH_3)_3$, $-CH(R^7)OCH_2CH_3$, $-CH(R^7)OC(CH_3)_3$, dicyclopropylmethyl, dimethylcyclopropylmethyl, or the following cyclic groups:



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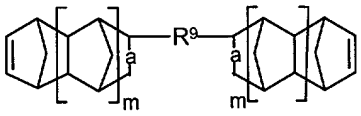
59. (Amended) The reactant composition of claim [32,] 33, [43, 44, 48, 55 or 56] wherein said composition further comprises a rate moderator selected from the group consisting of water, tetrahydrofuran, 2-methyltetrahydrofuran, diethyl ether, methyl-*tert*-butyl ether, dimethoxyethane, diglyme, trimethylphosphine, triethylphosphine, tributylphosphine, tri(ortho-tolyl)phosphine, tri-*tert*-butylphosphine, tricyclopentylphosphine, tricyclohexylphosphine, triisopropylphosphine, trioctylphosphine, triphenylphosphine, tri(pentafluorophenyl)phosphine, methyldiphenylphosphine, dimethylphenylphosphine, trimethylphosphite, triethylphosphite, triisopropylphosphite, ethyl diphenylphosphinite, tributylphosphite, triphenylphosphite, diethylphenylphosphonite, and tribenzylphosphine, 2-cyclohexenone, triphenylphosphine oxide, and mixtures thereof.

74. (Amended) The multifunctional polycycloolefin monomer set forth in claims [29,] 55, [and 69] wherein said monomer is selected from a composition of the formula:



wherein "a" independently represents a single or double bond, m independently is an integer from 0 to 5, R^9 is a divalent radical selected from divalent hydrocarbyl radicals and divalent ether radicals.

REMARKS

The claims have been amended to eliminate multi-dependency. A Notice of Allowance of claims 31-77 is respectfully requested.

Respectfully submitted,

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